

Cyclones and gales.—The reports available from vessels show that the month was distinctly less stormy over the North Atlantic than December usually is. No reports of hurricane-force winds (12) have been received, and only three reports of force 11.

During the first few days there were no important storms over the middle or western portions of the ocean, and cyclonic activity was not marked over any part of the North Atlantic from the 5th to the 7th, and again from the 12th to the 17th.

The first occurrence of force 11 was recorded by the Dutch motorship *Kota Tjandi*, on the 8th, about 200 miles to eastward of Cape Cod.

The other two encounters with force 11 occurred on the 23d and 25th respectively, in each case not far from the 55th meridian. The vessels which sent these reports were the Dutch steamship *Blommersdijk* and the Norwegian motorship *Nyhorn*.

The lowest barometer reading of the month was noted in connection with a rapidly moving storm which did not cause winds of force exceeding 10, so far as reports show. The center of this storm was near Cape Hatteras on the forenoon of the 27th, and 24 hours later was located not far to southward of Sable Island. A marked increase in strength occurred during the next 24 hours, as the storm

advanced to about 45° N., 40° W. The center moved slightly to north of eastward to reach 46° N., 32° W., on the 30th, and then turned more to the northeastward.

Fog.—While reports of fog came from many areas, more widely scattered than usual, yet nowhere did fog occur very frequently. Two squares adjacent to the northeastern coast of the United States led in number of days, having 5 each; these are located from 35° to 40° N., 75° to 80° W.; and from 40° to 45° N., 70° to 75° W. Several other squares had fog on 4 days each, some of these being near the eastern United States coast; one on the Gulf of Mexico, 25° to 30° N., 90° to 95° W.; and one near the southern tip of the Grand Banks, 40° to 45° N., 45° to 50° W.

Fog reports from the Grand Banks area indicate that occurrences were well scattered in matter of time, but in the northern Gulf of Mexico all reports of fog were within the first 12 days, while near the coast between the Chesapeake capes and Florida there was scarcely any fog before the 20th.

Compared with normal occurrence in December, this month is indicated as having somewhat less than normal amount of fog over the Grand Banks and thence westward to Nova Scotia and eastern New England. On the other hand, there was somewhat more fog than normal in the general vicinity of Cape Hatteras.

OCEAN GALES AND STORMS, DECEMBER 1939

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer, December	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Direction and highest force of wind	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude	De-	De-	De-						
NORTH ATLANTIC OCEAN													
Boschdijk, Du. S. S.	Antwerp	New York	49 21 N.	10 52 W.	1	4p, 1	1	1,007.1	SW	SW, 9	WNW	SW, 9	SW-WNW.
Do	do	do	49 04 N.	20 59 W.	3	4p, 3	3	1,014.6	WSW	WNW, 9	NW	WNW, 10	WNW-NW.
Germania, Nor. M. S.	Gothenburg	Port Arthur	60 00 N.	13 15 W.	4	10p, 3	4	987.5	NNW	NNW, 9	NNW	NNW, 9	NNW, 9
American Merchant, Am. S. S.	Havre	New York	49 42 N.	10 06 W.	3	6a, 4	5	1,000.7	WNW	WNW, 9	NNW	NNW, 9	NNW-NW.
Jean Jadot, Belg. S. S.	Antwerp	do	49 29 N.	7 29 W.	5	4a, 5	5	989.8	SSE	NW, 9	NW	NW, 9	
Jean Lafitte, Am. S. S.	Glasgow	Georgetown, S. C.	35 00 N.	66 30 W.	8	8a, 8	9	1,005.1	SW	SW, 7	NW	NW, 9	SW-NW.
Kota Tjandi, Du. M. S.	Capetown	Boston	41 27 N.	66 08 W.	8	12m, 8	9	984.9	SSW	W, 11	W	W, 11	WSW-WNW.
Charles H. Cramp, Am. S. S.	do	do	35 10 N.	58 15 W.	8	6p, 8	9	1,006.1	WSW	WSW, 10	WNW	WNW, 10	WSW-WNW.
Boschdijk, Du. S. S.	Antwerp	New York	42 20 N.	52 54 W.	8	8p, 8	9	984.6	SSW	SSW, 7	WSW	W, 9	SSE-W.
Abbekerk, Du. M. S.	Capetown	Boston	33 39 N.	64 56 W.	8	8p, 8	9	1,008.6	W	NW, 9	WNW	NW, 9	W-NW.
Ferncastle, Nor. M. S.	Abadan	Bergen	59 18 N.	10 12 W.	9	8p, 9	10	985.0	NE	ESE, 7	SE	E, 9	E-SE.
Jean Jadot, Belg. S. S.	Antwerp	New York	46 20 N.	41 35 W.	9	6a, 10	10	989.8	SSE	NW, 5	W	W, 9	SW-NW-WSW.
American Merchant, Am. S. S.	Havre	do	41 17 N.	64 48 W.	12	12m, 12	12	990.2	NNE	NNE, 9	NNW	NNE, 9	NE-N.
Blommersdijk, Du. S. S.	Rotterdam	do	49 42 N.	6 30 W.	14	12m, 14	14	990.2	N	SE, 4	NE	N, 8	SE-N.
Pennland, Du. S. S.	Antwerp	do	48 24 N.	34 54 W.	18	9a, 18	18	993.3	SSE	S, 8	W	W, 10	S-W.
Blommersdijk, Du. S. S.	Rotterdam	do	47 48 N.	32 42 W.	18	10a, 18	18	998.8	SSW	SW, 8	W	WSW, 9	SW-WSW.
Do	do	do	46 22 N.	39 21 W.	19	12p, 19	21	999.6	SSW	W, 7	WNW	NW, 9	SSW-W.
Monstella, Ital. S. S.	Sines, Portugal	do	35 40 N.	67 10 W.	22	4p, 22	23	1,001.0	W	W, 10	NW	NW, 10	
Exminster, Am. S. S.	Casablanca	do	34 15 N.	54 25 W.	23	4a, 23	24	995.6	WSW	WSW, 8	WNW	W, 9	WSW-NW.
West Harshaw, Am. S. S.	Rotterdam	Norfolk	33 50 N.	54 40 W.	23	4a, 23	24	997.3	W	W, 9	NW	WNW, 10	W-WNW.
Nyhorn, Nor. M. S.	Rotterdam	Philadelphia	36 06 N.	50 54 W.	23	9a, 23	24	997.3	W	W, 10	NW	WNW, 10	W-WNW.
Blommersdijk, Du. S. S.	New York	New York	42 10 N.	56 23 W.	23	12m, 23	26	981.4	N	NW, 11	NW	NW, 11	NE-NW.
Bronxville, Nor. M. S.	Gibraltar	Boston	36 47 N.	7 01 W.	24	12m, 24	25	1,007.2	S, 6	W, 8	NW	NW, 8	SW-NW.
Atlanta City, Am. S. S.	Cristobal	New York	29 50 N.	73 27 W.	24	3p, 24	24	1,004.4	SW	SW, 8	NW	NW, 8	SW-WSW.
Exminster, Am. S. S.	Casablanca	New York	33 50 N.	68 12 W.	24	4a, 25	25	986.5	SW	SW, 10	NW	SW, 10	SW-WSW.
West Harshaw, Am. S. S.	Rotterdam	Norfolk	32 55 N.	54 35 W.	25	8a, 25	25	996.3	SSW	SSW, 10	NW	SSW, 10	SSW-WNW.
Nyhorn, Nor. M. S.	Dublin	Philadelphia	36 12 N.	53 30 W.	24	9a, 25	26	990.6	WSW	11	WSW	11	NE-N.
Aldecoa, Span. S. S.	Ceuta	Galveston	29 20 N.	94 38 W.	25	1a, 26	26	1,011.4	NE	N, 9	NW	NE, 9	NE-NW.
Express, Am. S. S.	Lisbon	New York	40 24 N.	35 08 W.	28	8a, 20	31	986.8	SW	W, 9	WNW	WNW, 10	SW-W.
Noordam, Du. M. S.	Rotterdam	do	48 00 N.	32 48 W.	28	12p, 29	31	995.0	S	NE, 6	W	NW, 9	E-NE-W.
Bronxville, Nor. M. S.	Gibraltar	Boston	33 11 N.	31 30 W.	29	10a, 30	31	1,003.2	WNW	WNW, 7	NW	WNW, 9	
Express, Am. S. S.	Lisbon	New York	40 04 N.	39 56 W.	31	2p, 31	31	979.0	W	SW, 2	WNW	W, 10	S-W.
Spidoleine, Belg. M. S.	Antwerp	Philadelphia	42 30 N.	46 45 W.	31	4p, 31	31	975.5	W	W, 9	WNW	W, 9	
NORTH PACIFIC OCEAN													
Beaver, U. S. S.	Honolulu	Manila	12 48 N.	122 42 E.	1	4p, 2	3	984.9	NE	N, 9	NW	NNW, 9	NW-N-NNW.
Kyo Maru, Jap. M. S.	Kobe	Los Angeles	39 36 N.	164 24 W.	4 30	1p, 2	5	989.3	SW	W, 8	SW	W, 8	
Niel Maerck, Dan. M. S.	Yokohama	do	46 38 N.	176 48 W.	4 30	1p, 1	2	981.4	SW	WNW, 7	NNW	WSW, 11	W-WNW.
Daisan Ogura Maru, Jap. S. S.	do	San Francisco	40 30 N.	170 00 W.	1	1a, 2	3	991.5	W	W, 9	WNW	W, 9	
San Clemente Maru, Jap. M. S.	do	do	45 20 N.	176 11 E.	1	12m, 2	2	988.5	W	W, 7	W	W, 9	W-NNW.
Brajara, Nor. M. S.	San Luis	Yokohama	33 36 N.	148 36 W.	4	2p, 6	6	999.4	SSW	W, 7	SW	SW, 8	SW-W.
City of Elwood, Am. M. S.	Hong Kong	Los Angeles	34 39 N.	163 00 W.	6	4p, 6	7	996.6	WSW	WSW, 7	W	WNW, 10	WSW-NW.

See footnotes at end of table.